

REMARKS

Applicants cancel claims 2, 3, and 12-20 and amend independent claim 1 to improve the readability of the claim. No new matter is added by way of the amended claim, which is fully supported by the specification. Accordingly, Applicants respectfully request examination of pending claims 1, 4-11, and 21-31.

Claim Rejections Under 35 U.S.C. § 103(a)

The Examiner rejected claims 1, 4, 5, and 9-11 under 35 U.S.C. § 103(a) as being unpatentable over Bersin et al. (U.S. Patent No. 5,882,489) in view of Gockel et al. (U.S. Patent No. 5, 809, 832) and further in view of Tadokoro (U.S. Patent No. 4,559, 718). Further, the Examiner rejected claims 6 and 8 as being unpatentable over Bersin et al. in view of Gockel et al. and Tadokoro as applied to claim 1 and further in view of Elliott et al. (U.S. Patent No. 5,669,979). Then, the Examiner rejected claim 8 as being unpatentable over Bersin et al. in view of Gockel et al. and Tadokoro as applied to claim 1 and further in view of Tomoeda et al. (U.S. Patent No. 5,759,614) and rejected claims 21-24 as being unpatentable over Lo et al. (U.S. Patent No. 5,804,091) in view of Gabriel (U.S. Patent No. 5,730, 834). Subsequently, the Examiner rejected claims 25-31 as being unpatentable over Gockel et al. in view of Tadokoro and further in view of Elliott et al. and rejected claim 28 as being unpatentable over Gockel et al. in view of Tadokoro and Elliott et al. as applied to claim 25 and further in view of Tomoeda. Applicants respectfully traverse the rejections of the claims in view of Gockel et al. and Lo et al..

To establish a prima facie case of obviousness, there must be some suggestion or motivation either in the references or in the knowledge of one of ordinary skill in the art to combine the references such that there is a reasonable expectation of success

and *the references must teach or suggest all the claim limitations* (MPEP 2143; MPEP 2143.03). Applicants respectfully submit that the recited claims are allowable and request the withdrawal of the 35 U.S.C. § 103(a) rejection.

Specifically, regarding independent claims 1, as amended, 21, and 25, the references singly or in combination, do not teach or suggest a rinsing station that positions “an outlet end of at least one liquid delivery source relative to a surface of the semiconductor wafer so that *the outlet end overlies an edge of the semiconductor wafer*” such that the liquid delivery source wets the surface of the semiconductor wafer with a brushing operation.

Bersin et al. teaches providing a wafer to a rinsing station after a dry plasma etching step. In the rinsing station using DI water, ultrasonic agitation can wash away organic material, leaving only insoluble inorganic residues. Bersin et al. at col. 4, lines 22-28. Gockel et al. then teaches upper and lower brushes (col. 8, line 14) with spray heads *mounted at the entrance and exit of the brush box* (col. 7, lines 49-55). Specifically, in Figures 5 and 11, Gockel et al. shows spray heads and spray flow paths that *originate some distance away from the wafer*. Then, in Figure 14, Gockel et al. *does not show the position of the spray heads*. Finally, Tadokoro teaches a method for drying a semiconductor (col. 1, lines 31-36).

Bersin et al. and Tadokoro do not teach an outlet end of a liquid delivery source with the outlet end overlying an edge of the semiconductor wafer. Further, Gockel et al. does not teach that the spray heads, as shown in Figures 5 and 11, and not shown in Figure 14, overlie an edge of the semiconductor wafer. Accordingly, because Gockel et al., singly or in combination with the other references, does not teach or suggest the recited elements in independent claims 1 and 25, Applicants respectfully submit that independent claims 1 and 25 are allowable.

Because independent claims 1 and 25 are submitted to be allowable, Applicants respectfully submit that dependent claims 4-11 and 26-31, which depend from independent claims 1 and 25, respectively, are allowable for at least the same reasons. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 103(a) rejection.

Regarding independent claim 21, Applicants note that the Examiner rejected claims 21-24 over Lo et al. and Gabriel, but instead used Lo et al., Elliott et al., and Gockel et al. to support the rejection. Applicants once more submit that Gockel et al. does not teach the positioning of the outlet over the semiconductor wafer and further submit that Lo et al. teaches away from the combination with the other references.

Specifically, Lo et al. teaches cleaning the wafer with DI water and megasonic shaking “instead of using the traditional method with [a] scrubber to scrub the wafer surface.” Further, Lo et al. suggests that using a scrubber would damage the surface of the wafer. Lo et al. at col. 2, lines 31-36. Thus, Lo et al. does not suggest using a scrubber, in contrast with “scrubbing...with a cleaning brush,” as recited by independent claim 21.

Accordingly, because the Lo et al. teaches away from scrubbing the wafer and Gockel et al. does not teach or suggest an outlet over the wafer, Applicants respectfully submit that independent claim 21 is allowable. Further, dependent claims 22-24, which depend from allowable independent claim 21, are submitted to be allowable for at least the same reasons. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 103(a) rejection.

Applicants respectfully request a Notice of Allowance based on the foregoing remarks. If the Examiner has any questions concerning the present amendment, the

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Reply to Office Action of 9/22/2003.

Examiner is kindly requested to contact the undersigned at (408) 749-6900. If any other fees are due in connection with filing this amendment, the Commissioner is also authorized to charge Deposit Account No. 50-0805 (Order No. LAM1P109). A copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
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